

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the above-identified application.

1. (Previously presented) A method for restoring a path in a communication system between zones comprising:
 - establishing an inter-zone link between a first border node of a source zone and a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;
 - identifying an inter-zone link failure between the source zone and the destination zone;
 - identifying a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;
 - informing a node in the destination zone of the pre-planned alternative route;
 - informing a node in the source zone of the pre-planned alternative route; and
 - providing communication between the destination zone and the source zone via the pre-planned alternative route.
2. (Previously Presented) The method of claim 1 further comprising:
 - routing the pre-planned alternative route through a transit zone.
3. (Original) The method of claims 2 further comprising:
 - requesting new paths to be established between zones.
4. (Previously presented) The method of claim 3 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.
5. (Previously presented) The method of claim 2 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

6. (Original) The method of claim 1 further comprising:
establishing new paths to be established between zones.
7. (Previously presented) The method of claim 6 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.
8. (Previously presented) The method of claim 1 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.
9. (Previously presented) A network element configured to restore a path in a communication system comprised of:
a processor configured to:
 establish an inter-zone link with a first border node of a source zone with a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;
 identify an inter-zone link failure between the source zone and the destination zone;
 identify a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;
 inform a node in the destination zone of the pre-planned alternative route;
 inform a node in the source zone of the pre-planned alternative route; and
 provide communication between the destination zone and the source zone via the pre-planned alternative route.
10. (Previously Presented) The network element of claim 9 wherein the processor is further configured to:
 route the pre-planned alternative route through a transit zone.

11. (Original) The network element of claim 10 wherein the processor is further configured to:

request new paths to be established between zones.

12. (Previously presented) The network element of claim 11 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

13. (Previously presented) The network element of claim 10 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

14. (Original) The network element of claim 9 wherein the processor is further configured to:

establish new paths to be established between zones.

15. (Previously presented) The network element of claim 14 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

16. (Previously presented) The network element of claim 9 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

17. (Previously presented) A computer system comprising:
a processor;
a computer readable medium coupled to the processor; and
computer code, encoded in the computer readable medium, configured to cause the processor to:
establish an inter-zone link with a first border node of a source zone with a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;
identify an inter-zone link failure between the source zone and the destination zone;
identify a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;
inform a node in the destination zone of the pre-planned alternative route;
inform a node in the source zone of the pre-planned alternative route; and
provide communication between the destination zone and the source zone via the pre-planned alternative route.
18. (Previously Presented) The computer system of claim 17 wherein the computer code is further configured to cause the processor to:
route the pre-planned alternative route through a transit zone.
19. (Original) The computer system of claim 18 wherein the computer code is further configured to cause the processor to:
request new paths to be established between zones.
20. (Previously presented) The computer system of claim 19 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

21. (Previously presented) The computer system of claim 18 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.
22. (Original) The computer system of claim 17 wherein the computer code is further configured to cause the processor to:
- establish new paths to be established between zones.
23. (Previously presented) The computer system of claim 22 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.
24. (Previously presented) The computer system of claim 17 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.
25. (Previously presented) An apparatus for restoring a path in a communication system comprising:
- means for establishing an inter-zone link with a first border node of a source zone with a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;
 - means for identifying an inter-zone link failure between the source zone and the destination zone;
 - means for identifying a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;
 - means for informing a node in the destination zone of the pre-planned alternative route
 - means for informing a node in the source zone of the pre-planned alternative route; and
 - means for providing communication between the destination zone and the source zone via the pre-planned alternative route.

26. (Previously Presented) The apparatus for restoring a path in a communication system of claim 25 further comprising:

means for routing the pre-planned alternative route through a transit zone.

27. (Original) The apparatus for restoring a path in a communication system of claim 26 further comprising:

means for requesting new paths to be established between zones.

28. (Previously presented) The apparatus for restoring a path in a communication system of claim 27 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

29. (Previously presented) The apparatus for restoring a path in a communication system of claim 26 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

30. (Original) The apparatus for restoring a path in a communication system of claim 25 further comprising:

means for establishing new paths to be established between zones.

31. (Previously presented) The apparatus for restoring a path in a communication system of claim 30 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

32. (Previously presented) The apparatus for restoring a path in a communication system of claim 25 wherein the pre-planned alternative route is configured based on the class of service requirements between the source zone and the destination zone.

33. (Previously presented) A computer program product, encoded in computer readable media, comprising:

- a first set of instructions, executable on a computer system, configured to establish an inter-zone link with a first border node of a source zone with a second border node of a destination zone, where the inter-zone link meets class of service requirements between the source zone and the destination zone;
- a second set of instructions, executable on the computer system, configured to identify an inter-zone link failure between the source zone and the destination zone;
- a third set of instructions, executable on the computer system, configured to identify a pre-planned alternative route, where the pre-planned alternative route also meets the class of service requirements between the source zone and the destination zone;
- a fourth set of instructions, executable on the computer system, configured to inform a node in the destination zone of the pre-planned alternative route;
- a fifth set of instructions, executable on the computer system, configured to inform a node in the source zone of the pre-planned alternative route; and
- a sixth set of instructions, executable on the computer system, configured to provide communication between the destination zone and the source zone via the pre-planned alternative route.

34. (Previously Presented) The computer program product of claim 33, encoded in computer readable media, further comprising:

- a seventh set of instructions, executable on the computer system, configured to provide routing the pre-planned alternative route through a transit zone.

35. (Original) The computer program product of claim 34, encoded in computer readable media, further comprising:

- an eighth set of instructions, executable on the computer system, configured to request new paths to be established between zones.

36. (Previously Presented) The computer program product of 35 wherein the pre-planned alternative route is configured based on class of service requirements.

37. (Previously Presented) The computer program product of 34 wherein the pre-planned alternative route is configured based on class of service requirements.

38. (Previously Presented) The computer program product of claim 33, encoded in computer readable media, further comprising:

a seventh set of instructions, executable on the computer system, configured to establish new paths to be established between zones.

39. (Previously Presented) The computer program product of 38 wherein the pre-planned alternative route is configured based on class of service requirements.

40. (Previously Presented) The computer program product of 33 wherein the pre-planned alternative route is configured based on class of service requirements.

41. (Previously presented) A method for restoring a path in a communication system between zones comprising:

establishing an inter-zone link with a first border node of a source zone with a second border node of a destination zone;

identifying an inter-zone link failure between the source zone and the destination zone;

identifying a pre-planned alternative route;

informing a node in the destination zone of the pre-planned alternative route;

informing a node in the source zone of the pre-planned alternative route;

providing communication between the destination zone and the source zone via the pre-planned alternative route;

identifying an intra-zone failure within at least one of said source zone and said destination zone; and

dynamically identifying an alternative route using a distributed restoration process associated with said at least one of said source zone and said destination zone.

42. (Previously presented) The network element of claim 9 wherein the processor is further configured to:

identify an intra-zone failure within at least one of said source zone and said destination zone; and

dynamically identify an alternative route using a distributed restoration process.

43. (Previously presented) The computer system of claim 17 wherein the computer code is further configured to cause the processor to:

identify an intra-zone failure within at least one of said source zone and said destination zone; and

dynamically identify an alternative route using a distributed restoration process.

44. (Previously presented) An apparatus for restoring a path in a communication system comprising:

means for establishing an inter-zone link with a first border node of a source zone with a second border node of a destination zone;

means for identifying an inter-zone link failure between the source zone and the destination zone;

means for identifying a pre-planned alternative route;

means for informing a node in the destination zone of the pre-planned alternative route

means for informing a node in the source zone of the pre-planned alternative route;

means for providing communication between the destination zone and the source zone via the pre-planned alternative route;

means for identifying an intra-zone failure within at least one of said source zone and said destination zone; and

means for dynamically identifying an alternative route using a distributed restoration process.

45. (Previously presented) The computer program product of claim 33, encoded in computer readable media, further comprising:

a seventh set of instructions, executable on the computer system, configured to identify an intra-zone failure within at least one of said source zone and said destination zone; and

an eighth set of instructions, executable on the computer system, configured to dynamically identify an alternative route using a distributed restoration process.

46. (Previously presented) A method for restoring a path in a communication system between zones comprising:

establishing an inter-zone link with a first border node of a source zone with a second border node of an destination zone, wherein the source zone and the destination zone execute separate copies of a topology distribution algorithm;

identifying an inter-zone link failure between the source zone and the destination zone;

identifying a pre-planned alternative route;

informing a node in the destination zone of the pre-planned alternative route;

informing a node in the source zone of the pre-planned alternative route; and

providing communication between the destination zone and the source zone via the pre-planned alternative route.